VIDEO SMOKE DETECTION FOR CRITICAL ENVIRONMENTS

www.araani.com
SmokeCatcher is a reliable early warning system for smoke detection in critical indoor environments. Adding the proven and tested SmokeCatcher video analytics to your visual security camera enables you to detect smoke superfast. This is especially the case in places where traditional smoke detection systems fail due to slow detection or too many false alarms.
SMOKECATCHER SEES IT FIRST

FOR HARSH ENVIRONMENTS
SmokeCatcher works flawlessly in environments where chemicals, dust or vapor are present every day. Unlike traditional smoke detection systems, SmokeCatcher does not generate false alarms because of these phenomena.

FOR HIGH-IMPACT & HIGH-RISK ENVIRONMENTS
Even a small fire can have big consequences, both in high-impact (e.g. power plants, airplane hangars) and high-risk environments (e.g. chemical plants). Traditional smoke detectors might only get activated when the damage is already done.

FOR GREAT HEIGHTS
SmokeCatcher is ideal for use in tall buildings or large indoor spaces. In these environments, smoke might never reach your traditional smoke detector, because of a process called stratification, which stops the upward movement of smoke.

SUPERFAST SMOKE DETECTION

[Diagram showing the three phases of smoke development: Latent phase, Growing phase, Full development phase]
YOUR BENEFITS

LOW FALSE ALARM RATE
Many traditional smoke detection technologies suffer from high false alarm rates, which can be very costly for your organization. Because SmokeCatcher detects smoke based on visual camera information, the false alarm rate is kept extremely low.

FAST DETECTION
SmokeCatcher does not need to make physical contact with smoke. The system can actually see starting smoke fumes from large distances. This saves many valuable seconds, which can be used to take action before a major incident happens.

VISUAL VERIFICATION
SmokeCatcher makes time-consuming inspection rounds to the smoke source unnecessary, because operators immediately see when and where it happens on their CCTV systems. Recordings of incidents can also be used afterwards for evidence gathering or analysis.

RELIABLE DETECTION
SmokeCatcher video analytics have been developed and fine-tuned based on a vast video database. Our video archive is continuously expanding with customer material, which improves our analytics even more and enables us to cope with a growing number of environments and requirements.

EDGE-BASED ANALYTICS & STORAGE
SmokeCatcher video analytics are fully integrated into your security camera, not installed on a server. This means that there’s no single point of failure in your security network. Also, your video stream does not need to travel across your network, so it does not eat up your bandwidth.

REAL-TIME HEALTH CHECKS
SmokeCatcher has a real-time self-test functionality, which enables the device to generate a notification when it is out of order or when detection is impossible, e.g. when the view is obstructed. An additional ‘Operational Signal’ will ascertain the operator that the algorithm is active and functioning properly.

WHAT’S INCLUDED IN SMOKECATCHER?

SMART SOFTWARE
A software license is the core of your SmokeCatcher solution. The SmokeCatcher algorithm continuously scans the environment and analyzes it in real time to exactly locate the incident.

SEAMLESS INTEGRATION
Araani and its partners offer a smooth integration of SmokeCatcher with your existing devices and systems, including LAN, VMS or Fire Alarm Control Panel.

FANATICAL SUPPORT
Araani’s highly skilled integration partners are your first line of support. Whenever needed, our Araani experts are always at the ready to help you out with additional support.

A HIGH-PERFORMANCE CAMERA
SmokeCatcher comes as a high-performance Axis camera, with Araani software fully pre-installed.

ROCK-SOLID CERTIFICATION
SmokeCatcher is a state-of-the-art solution, ahead of legislation. However, Araani offers a Certification Protocol to bridge the gap between technology and legislation.
FLEXIBLE INTEGRATION

SmokeCatcher easily integrates into your existing fire installation via our dedicated interface module, and also connects seamlessly with your VMS or BMS (Milestone, SeeTec, Genetec, etc.).

DETECTION

1. Embedded self-test:
   - 15 lux
   - Sufficient background detail
   - Lens in focus.

2. 4 outputs:
   - Fault
   - Operational
   - Pre-smoke
   - Smoke.

3. Keep alive signal

CAMERA

See Axis camera compatibility list.

TECHNICAL REQUIREMENTS

For the best SmokeCatcher performance, the following technical requirements should be taken into account:

- A minimum of 15 lux of light should be present.
- SmokeCatcher should be installed indoors or in a roofed area, in order to minimize the effect of various types of weather conditions.
- SmokeCatcher software is intended for use on fixed cameras only. PTZ cameras cannot be used in combination with SmokeCatcher software.
- The coverable surface of the camera depends on the lens type (opening angle of 45°, 60°, 75° or 90°) and installation height (minimal 5m). The camera should always be pointed vertically downwards and a minimum installation height of 5m must be taken into account. In order to avoid blind spots, the different cameras’ fields of view should sufficiently overlap. The cameras should also cover the surrounding walls for at least 3m high.

ALARM OUTPUT

NETWORK

- The camera can send an e-mail notification about the SmokeCatcher status, including pre- and post-event video recording:
  - Operational
  - Fault
  - Pre-smoke
  - Smoke.

- SmokeCatcher Bridge plug-in enables integration into any VMS/BMS:
  - Alarm notification
  - Bounding boxes
  - Event recording
  - Pop-up in control room
  - Sound notification
  - E-mail notification.

I/O

Via an Interface Module, the digital I/O’s of the camera are converted into hard contacts.

FIRE CONTROL PANEL

- Output: SmokeCatcher status:
  - Operational
  - Fault
  - Pre-smoke
  - Smoke.

- Output: hardware/software status (health check):
  - Power failure
  - Loss of keep-alive signal.

PLC: The interface module has 4 outputs can be sent to any PLC in order to activate rotating beacons, alarm signals, etc.

CUSTOMIZED INPUTS e.g. temporary de-activation for lens cleaning.

STORAGE

- SD card in camera
- NVR
- VMS/BMS.

COVERABLE CAMERA SURFACE

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HEIGHT (M)

COVERABLE CAMERA SURFACE
Founded in 2014, Araani is a Belgian high-tech company, specialized in video analytics for people, property and process protection. Araani is also the developer of SmokeCatcher, the company’s advanced video smoke detection solution that has been designed to guarantee business continuity and fire safety for companies that operate in critical and demanding environments.